Nicotine replacement therapies (NRTs)

other titles in this series
THE TRUTH ABOUT...

Smoking

Spit tobacco

Second-hand smoke (SHS)

Smoking and pregnancy

Options for quitting smoking

What to expect when quitting smoking

Social smoking

The tobacco industry

What are NRTs?

Three kinds of nicotine replacement therapy are available in Canada: nicotine chewing gum (Nicorette®), the nicotine patch (Habitrol® and Nicoderm®) and the nicotine inhaler (Nicorette® Inhaler). When used correctly, NRTs increase a smoker's chances of long-term cessation. Talk to your doctor or pharmacist about the right NRT and the right dose for you.

Nicorette gum comes in two dosage levels (2 mg and 4 mg units) based on your level of dependence on tobacco. Smoking should be stopped completely before using the gum.

Both Habitrol and Nicoderm patches come in three dosage levels ranging from 7 mg to 21 mg. Patients start with a higher dose and gradually taper off. What dose you start on will depend on your level of nicotine addiction, support network, stresses, self-confidence, weight and medical conditions. Nicoderm and Habitrol differ in how long they require patients to remain at each dose. You should not smoke while using the patch.

The nicotine inhaler is designed for people who are used to the actions that go along with smoking, like holding a cigarette in the hand and mouth, and inhaling. Like the gum, the inhaler may be used more often at first, then gradually less often. You should not smoke while using the inhaler.

How do NRTs work?

Be sure to ask your pharmacist for specific instructions on how to use NRTs. The use of NRTs varies with the product and the person. What follows are some general guidelines.

Nicotine gum

Nicotine is bound up in the resin of the gum. Chewing releases the nicotine, which is then absorbed from the soft tissues of the mouth into the bloodstream. To receive the best possible dose, chew slowly until a tingle is felt in the mouth. Try parking the gum between your teeth and cheek for about a minute until the tingle subsides and then chew and park the gum again. Keep repeating the process for approximately 30 minutes. If you become nauseated, you are chewing too fast.

Besides nausea, side effects include indigestion, hiccups, dizziness and light-headedness. These are usually mild and don't last long. If any of these symptoms persist or are severe, stop using the gum and talk to your doctor or pharmacist.

Avoid drinking acidic beverages such as coffee, tea, soft drinks, alcohol or citrus juices while the gum is being chewed. Reduced pH (increased acidity) decreases the amount of nicotine absorbed. Beverages affect absorption in other ways too. If you chew and drink at the same time, the nicotine will be absorbed through the stomach rather than the mouth. This can cause heartburn and hiccups. For best results, avoid all beverages 15 minutes before and after chewing nicotine gum.

AADAC© 2006 ISBN 0-7785-4481-8
5411

Nicotine patch

Nicotine is applied through the skin using a special adhesive film. The body slowly absorbs the nicotine over a 24-hour period.

The most common side effects of the patch are redness and a tingling or burning sensation where the patch has been applied. Other common side effects include headache, indigestion, nausea, vomiting, diarrhea, constipation, muscle aches, dizziness and change in taste. These side effects are similar to the withdrawal symptoms of quitting smoking, which makes it difficult to know if the side effects are from the medication. Check with your doctor or pharmacist if you are not sure. Other possible side effects include irregular or rapid heartbeat. If you have any of these side effects, stop using the patch and see your doctor.

Nicotine inhaler

The nicotine inhaler is a mouthpiece about the size and shape of a cigarette. The mouthpiece can be refilled with nicotine cartridges. As air is drawn in through the inhaler, it mixes with some of the nicotine in the cartridge. Nicotine is then absorbed from the soft tissues of the mouth and throat into the bloodstream. Very little nicotine makes it to the lungs. The inhaler can be used for about 20 minutes (either all at once or off and on) until the nicotine cartridge is empty. The recommended dose is between six and 12 cartridges per day for up to three months, depending on your level of nicotine addiction and your doctor's advice. After that, the inhaler can be gradually used less and less. The inhaler should not be used for more than six months.

The most common side effects of using the inhaler are coughs and mild irritation of the mouth and throat. Other side effects include upset stomach , hiccups, nasal congestion and headaches. If any of these symptoms persist or are severe, stop using the inhaler and talk to your doctor or pharmacist. As with the nicotine gum, you should avoid acidic beverages while using the inhaler.

How do NRTs affect my other medications?

Before you start any quit smoking program, talk to your doctor about how quitting smoking will affect your medications. The liver of a regular tobacco user becomes efficient at removing tobacco by-products from the blood. It also becomes efficient at removing certain medicines from the blood. Tobacco users metabolize caffeine, diazepam (Valium®), chlordiazepoxide (Librium®), acetaminophen (Tylenol®), amitriptyline (Elavil®), clozapine (Clozaril®), and theophylline (Uniphyl®) more quickly than non-smokers. When you stop smoking, your metabolism will slow down too. Many medicines will require a decrease in dose, but some may need an increase. Nicotine can also increase the therapeutic effect of some medications.

Medicines that are applied through the skin, such as insulin or hormone gels, will also need adjustment. Nicotine reduces blood flow to the skin, which makes it harder for these medicines to enter the bloodstream. But circulation and absorption increase once you quit smoking.

What are the differences between NRTs?

Research has shown that nicotine gum works best with mildly to moderately dependent smokers (such as people who smoke irregularly or only in social settings). For more information on social

106-06815/

smoking, see other topics in this series.

Nicotine gum and the nicotine inhaler satisfy the need to use the mouth and hands in social situations. Chewing gum or using the inhaler also gives some smokers the oral satisfaction of cigarettes. The gum and inhaler also allow the user more control over how much nicotine is used and when.

The nicotine patch works better for moderate to heavy smokers who are used to maintaining higher and steadier levels of nicotine in the bloodstream. The patch also works better at controlling morning nicotine withdrawal than gum does. Many people find the patch convenient—they only have to apply it once a day.

Can I use NRT during my pregnancy?

The use of NRTs during pregnancy is not risk-free, but NRT use is less harmful than smoking during pregnancy. Both the woman and the baby receive less nicotine and no exposure to carbon monoxide and other toxic substances. However, pregnant women who smoke should be encouraged to first quit without NRTs and should only use NRTs in consultation with their doctors. Daytime and intermittent use is usually recommended.

Who should not use NRTs?

Children should not use NRT. Nicotine is toxic and even small amounts can harm children and pets.

If you suffer from heart disease, high blood pressure or problems with your thyroid, stomach or temporomandibular joint (TMJ), you should talk to your doctor before using nicotine gum. The inhaler is not recommended for people who have had recent heart problems or stroke, or people who are allergic to nicotine or menthol. The patch is not recommended for people with a recent heart attack or stroke, severe irregular heartbeat, worsening chest pain, skin diseases, or an allergy to the patch materials or nicotine.

Your doctor will need to monitor you more closely if you have an irregular heartbeat, high blood pressure, heart failure, overactive thyroid, stomach ulcers, kidney or liver disease, diabetes with insulin use, poor circulation, stroke or allergies to drugs, or if you get a rash from adhesive tape or bandages.

For some it may be safer to try to quit tobacco using social support or behavioural counselling only. Talk to your doctor before you start any course of NRT.

Can I become addicted to NRTs?

A few rare cases of nicotine dependence have been reported for nicotine gum, but none have been reported for the nicotine patch or nicotine inhaler. If you follow the instructions and use NRTs correctly, addiction should not be a concern. This is because addiction is mainly caused by the immediate feelings of pleasure and euphoria tobacco users feel when they use tobacco. These "highs" are caused by rapid peaks in nicotine levels as well as the total nicotine in the user's blood system. NRTs are designed to work slowly, lengthening the time between use. NRTs produce enough nicotine in the blood to prevent withdrawal symptoms without giving the usual accompanying pleasure.

Are NRTs all I need?

NRTs are only part of the answer. They address the physical dependence created by nicotine addiction and the effects of withdrawal in the short term.

NRTs do not address the social and psychological aspects.

Your quit attempt is more likely to succeed if you have social support from family, co-workers and friends. You are also more likely to succeed if you seek out behavioural counselling or join a quit smoking support group. Free counselling and support is available through the AADAC Smokers' Help Line (1-866-332-2322) and online at the www.albertaquits.ca website.

What's more, NRTs seem to have better outcomes when patients consult with their doctors. This may be because doctors are more likely to match the most appropriate product to the patient, and instruct patients on how best to use the product. Doctors are also more likely to recommend behavioural counselling to address the social and psychological aspects of addiction. For more information about quitting smoking, see other topics in this series.

Want to know more?

For more information, contact your local AADAC Area Office, or visit the AADAC website at www.aadac.com.